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A constructional approach to lexicalization processes in the history of English: Evidence from possessive constructions

Graeme Trousdale

Abstract

This article is concerned with aspects of lexicalization in the history of English from the perspective of Construction Grammar (CxnG). I show how constructional approaches can account for both grammaticalization and lexicalization within a unified framework, basing my argument around the two kinds of input to lexicalization which Brinton & Traugott (2005: 96) identify: syntactic constructions and word formation patterns. In lexicalization, linguistic forms that initially participate in an abstract schematic macro- or meso-construction, become idiosyncratic micro-constructions, whereas in grammaticalization an idiosyncratic micro-construction comes to participate in a more schematic meso- or macro-level construction.

The main part of the paper is devoted to a discussion of the evolution of what Taylor (1996) has described as possessive compounds, such as *driver's license*, in the history of English. I specifically consider how the CxnG framework can explain the development of form-meaning mismatches, conventionalization, and the loss of internal constituency, in lexicalization. The data suggest that a constructional approach can account for the two stages of lexicalization (grammatical to lexical, less lexical to more lexical) in a way parallel to the two stages of grammaticalization (lexical to grammatical, less grammatical to more grammatical).

1 Introduction

Some recent diachronic studies in the framework of Construction Grammar (CxnG) have focused particularly on the interface between grammaticalization and constructions (for example, Croft 2001; Hilpert 2008; Traugott 2008a, b, forthcoming; Trousdale 2008, forthcoming). In this article, the scope of diachronic CxnG is extended to consider

aspects of lexicalization in the history of English. I show how constructional approaches to language can account for both grammaticalization and lexicalization within a unified framework, basing the argument around the two kinds of input to lexicalization which Brinton & Traugott (2005: 96) identify: syntactic constructions and word formation patterns.¹

The hypothesis is that in lexicalization, constructions become less general, less productive, and less compositional (see Bybee, Perkins and Pagliuca 1994; Langacker 2005 for these criteria). By contrast, in grammaticalization, constructions become more general and more productive; they do, however, also become less compositional (see Himmelmann 2004 for a related discussion). I conclude by showing how a constructional approach can account for the two stages of lexicalization (grammatical to lexical, less lexical to more lexical) in a way parallel to the two stages of grammaticalization (lexical to grammatical, less grammatical to more grammatical), as illustrated by Traugott (2008 a, b, forthcoming) and Trousdale (2008, forthcoming).

Section 2 of this article provides an outline of the key set of related changes involving possessive constructions in the history of English upon which the theoretical argument is grounded. The data involved constitute a continuum of possessive constructions, from the more compositional and transparent possessive phrases of the type *Jane's magazine* at one end, to examples where the possessive morpheme has disappeared (for example, in *Christmas*) or become 'reanalysed' (for example, in *foolscap* > *fullscap*) in the lexicalization process. In section 3, I provide a discussion of the various ways that the term 'lexicalization' is used in the literature, and explain how I intend to use the term in the analysis sections that follow; characteristics of and inputs to diachronic lexicalization are also considered in this section. Section 4 provides a theoretical account of similarities and differences between grammaticalization and lexicalization within a CxNG framework. Section 5 is the conclusion.

2 Some data on the development of possessive constructions

English possessive constructions have been analysed in a monograph length study by Rosenbach (2002), and within a Cognitive Grammar framework in some detail, both synchronically (for example, by Taylor 1996) and diachronically (for example, by Koike 2004, 2006). In this section, I discuss some of the ways in which possessive constructions have developed in the history of English. The discussion begins with a brief account of some patterns associated with the adnominal genitive in Old English (OE), followed by an account of possessive phrases and compounds in the later history of the language.

2.1 Variability in Old English

The structural variability of adnominal genitives in OE is discussed by Koike (2004) and Mitchell (1985: §§1304–30). If we assume a structure *Z* for a nominal string, where *X* is the possessor, and *Y* the possessee, then the structure of *Z* in OE may be [*XY*], [*YX*] or, in cases where the possessor is marked by two nouns in apposition,

[Xa Y Xb], as indicated by the following examples (all drawn from Ælfric's *Catholic Homilies (CH)*, first series, as analysed by Koike 2004):

- (1) [= XY] þæs hælendes moder
the-GEN saviour-GEN mother-NOM
'the saviour's mother' (CH 15, 15)
- (2) [= YX] Heo ... Wæs moder þæs ælmihtigan godes
She ... was mother-NOM the-GEN almighty-GEN god-GEN
'she ... was mother of the almighty god' (CH 13, 110)
- (3) [= XaYXb] ON DEICES DÆGE þæs wælhreowan caseres
On Decius-GEN day-DAT the-GEN cruel-GEN emperor-GEN
'in the day of Decius, the cruel emperor' (CH 29, 3)

Mitchell (1985: §1310–5) observes that there are general tendencies which correlate the position of the genitive and the subcategory to which the genitive noun belongs: for instance, when X is a proper noun, the order (in OE prose at least) is consistently XY (Mitchell 1985: §1311). But Mitchell (1985: §1315) argues that overall stylistic and rhetorical motivations were of greater importance in determining the order of X and Y than was the meaning of the genitive noun. This perhaps suggests that the CONSTRUAL of the relationship between X and Y is OBJECTIVE (since X and Y are in a paratactic, appositional relationship in OE). Objective construal (Langacker 1990) is contrasted with SUBJECTIVE CONSTRUAL. In the latter, the representation of the object is an integral part of the speaker's conceptualization of a thing, a process, or of a relation between things and/or processes. The articulation of the filtering of a scene through the mind of the conceptualizer is backgrounded in objective construal: see further Taylor (1996: 348–51).

In the history of English, this positional variability is reduced: [YX] and [XaYXb] variants disappear, which entails the emergence (or at least dominance) of one of the variants as the exclusive marking of (non-periphrastic) possession. Thus the structure [X Y]_Z for the possessive construction starts to tighten, in that the relationship between X and Y changes from being paratactic to hypotactic², since X becomes determinative head, and Y the nominal dependent, and the split genitive construction in (3) is no longer sanctioned. Furthermore, X undergoes functional shift (an increased determinative function), and this particular instance of the genitive construction becomes increasingly productive, which is in part perhaps associated with loss of other functions of genitive nominals in OE.

Evidence for this increase in frequency, as discussed by Koike (2004, 2006), comes from the data provided by Thomas (1931: 70). He suggests that the frequency of the prenominal [X Y] (52%) is almost the same as the postnominal genitive [Y X] (47.5%) in early OE prose; early OE poetry already favours prenominal possessives (77.3%) rather than postnominal ones (22.4%), with the remainder being instances of the *of*-periphrasis; but prenominal possessives in prose continue to grow to about the twelfth century, when the rise of the *of*-periphrasis results in decrease of prenominal possessives in both poetry and prose (cf. also Mitchell 1985: §1305). In Modern English, possessive marking in possessive compounds is almost categorical with human possessors (e.g. *doctor's lounge* vs. **airport's lounge*, see Taylor 1996: 288–9). This too may be related

to the diachronic evolution of possessives. Koike (2004, 2006) observes that prenominal [X Y] possessives (as opposed to postnominal [Y X] possessives) are especially favoured where possessor is human – see also the discussions in Mitchell (1985: §1310–1) and Rosenbach (2006, 2007).

2.2 Possessive compounds in Modern English

Following this crystallization of prenominal possessives in the earlier history of English, in more recent times we can witness the development of possessive compounds from possessive phrases. A detailed treatment of the synchronic phenomena within a broadly cognitive model is given by Taylor (1996), who explores the syntactic and semantic ambiguities inherent in examples like *the woman's magazine*. A parsing of the string as *[[the woman's] magazine]* instantiates the prenominal possessive construction (cf. *Jane's magazine*) as discussed for OE above, in which we have a particular magazine, specified by the possessive phrase *the woman's*. The other interpretation has a different structure, namely *[the [woman's magazine]]*, which is more like a traditional nominal compound (cf. *the coffee table*), i.e. it designates a member of the set of the second noun. Taylor sees examples of this latter kind as hybrids, with a 'dual affinity' (Taylor 1996: 287, footnote 2): they are called possessive compounds because they share properties with prenominal possessives, and with nominal compounds.

Taylor (1996: 288–9) distinguishes prenominal possessives from possessive compounds on the following pragmatic, semantic and syntactic grounds. In the first set, the possessive functions as a determiner, marking definiteness, the syntactic structure is $[_{NP} [_{DET} NP POSS] N']$, and the semantic structure is such that it allows the hearer to identify the possessee by encouraging the hearer to locate that entity by reference to some cognitively salient reference point. Thus the particular member of the set 'magazine' is identified by reference to 'the woman', where this latter entity is said to be part of the shared ground for speaker and hearer; specifically, then, the construal in Modern English is subjective, in contrast to earlier stages of the language (see the discussion of OE patterns above). In the second set (possessive compounds) the article does not form a constituent with possessive noun, but rather the possessive noun serves as a 'restrictive modifier' (Taylor 1996: 288) of the second noun. Note that there is limited scope for modification of N in the modifying nominal (*a (*very) old folks home*)³, which could legitimately be considered an instance of decategorialization of the noun; and the syntactic structure of such compounds is $[_N [N'] POSS [N]]$, which suggests a rather ambiguous status of the POSS element, forming a constituent with neither the N' nor the N.

Taylor goes on to suggest that the two constructions are similar because they both have a 'reference point relation'; they differ in terms of the type vs. instance status of that reference point, and of the target. The prenominal possessive involves a reference point instance, which determines a further instance in the possessum; in the possessive compound, the modifier designates a type which serves as a reference point for a further type. While this works well with clear cut cases like *woman's magazine*, examples like *Alzheimer's disease* (what Taylor calls 'onomastic possessives') provide greater challenges. On the surface these may seem to have the status of NPs like *Mary's daughter*

and might therefore be treated as standard prenominal possessives: the possessor picks out a particular individual, the construction is definite, and the construction can be used with no preceding determiner. However, there are clear differences between examples like (4a) and (4b):

- (4) (a) Alzheimer's disease ruined John's life
- (4) (b) Mary's daughter ruined John's life

Possessive constructions such as those in (4a) can be used without the possessor having been mentioned already in the discourse; that is, the possessor is not a cognitively salient reference point from which the hearer can be guided to the specific instance designated by the possessum. This is not the case with (4b), where there is a clear individual reference use, and the possessor is typically 'given' in terms of discourse structure. In other words, we do not need to know anything about Alzheimer himself to know about *Alzheimer's disease*, nor are we restricted in using the term only to contexts in which Alzheimer has already featured in the discourse. A further distinction between the two sets is revealed by examples like (4c) and (4d):

- (4) (c) The doctors tried to treat John's Alzheimer's disease
- (4) (d) *The doctors tried to treat John's Mary's daughter

Thus, Taylor's analysis is really about how referential the possessor is in strings like *Alzheimer's disease*, and shows that such strings are clearly nouns rather than noun phrases. Furthermore, the pattern observable with such onomastic possessives is also generalisable to examples such as *housemaid's knee* and *jogger's nipple*. The fact that it is hard to find a pragmatically appropriate context for (5):

- (5) !I've got a jogger's nipple

provides even clearer indications of type status for the possessor/modifier.

On the compound status of possessive compounds, Taylor raises the question of whether possessive compounds are a subcategory of 'ordinary' noun-noun compounds, and if they are, why there is a 'possessive' morpheme in some but not in others. He notes the correlation of the appearance of the possessive with animacy of the modifier, suggesting that with human nouns, the possessive marker 'is generally obligatory' (Taylor 1996: 303) but with inanimate modifiers, possessive marking is very rare (cf. *doctor's lounge* not **doctor lounge*, but *airport lounge* not **airport's lounge*; see also Rosenbach 2006, 2007 on this issue). Non-human animates show considerable variability (in British English⁴, *chicken legs* not **chicken's legs*, but *frog's legs*, not **frog legs*). In discussing developments of the kind *collector's item* > *collector item*, Taylor (1996: 311) suggests:

It is plausible, therefore, that the move to a non-referential modifying noun, and the associated loss of the possessive marker, reflects increasing conventionalization of an expression. One might, in fact, propose a continuum of conventionalization, from a true prenominal possessive with a definite possessor, through a prenominal possessive with an indefinite possessor, to a possessive compound, and finally to a non-possessive compound.

- [...] Alternatively, the final stage of conventionalization could consist in the omission of the word space, with retention of medial *s*, which, however, is no longer construed as a possessive marker: *trade's man* > *tradesman*, *men's wear* > *menswear*

2.3 Two sets of lexicalized possessive constructions

Marchand (1969) discusses these sets in some detail. In discussing the first noun in examples like *catseye*, he suggests 'they are not genitives at all, they are compounds with /s, z/ for a linking element' (1969: 27) (i.e. akin to the German Fugen-s) but suggests 'it will be impossible to tell when exactly /s, z/ came to be regarded as a derivative element and when combinations of this group acquired compound status' (1969: 65). I have summarised Marchand's discussion of the two sets in Table 1⁵.

Marchand's analysis suggests that the *craftsman* set has undergone more extensive lexicalization than the *athlete's foot* set has; indeed, the latter is still a productive category. By way of illustration of the lexicalization of the *craftsman* set, I discuss the history of the form *kinsman*. In OE, there is some evidence (cf. Kastovsky 1992: 369–70) which suggests phrasal status; that is, the form consisted of an independent genitive phrase, which preceded a noun, as exemplified in (6a):

- 'They all greatly loathed that they were obliged to fight against men of their own kin'

(6) (b) Ietro..was moyses kynnes-man (*a1300 Cursor M.* 6434 [*OED*])

In (6b), one interpretation would have Jethro being described as ‘a man of Moses’ kin’, which would have the structure $[[moyses\ kinnes]_{DP}\ man]_{DP}$, and exemplify the phrasal

Table 1. Distinguishing between sets of prenominal possessive constructions (cf. Marchand 1969: 65–9)

FEATURE	<i>craftsman</i> set	<i>athlete's foot</i> set
Syntactic characteristic of determinatum	'subject'	'object'
Semantic characteristic of determinatum	Denotes human	Not specific
Semantic characteristic of determinant	Not specific, but usually not denoting a person	Denotes persons or animals
Stress pattern	Typically forestress	Typically endstress
Phonological reduction	Typically yes, of determinatum	No (presumably because of endstress?)
Semantic groups	(a) Referent has a skill e.g. <i>craftsman</i> (b) Referent belongs to a group e.g. <i>townsman</i>	(a) Determinatum denotes location e.g. <i>men's room</i> (b) Determinatum denotes body part e.g. <i>jogger's nipple</i>
Productivity by period	In evidence in OE, increase in productivity to eModE, no longer productive in PDE	"the bulk of coinages are in Modern English" (Marchand 1969: 67)

pattern proposed for the OE example in (6)(a). The other interpretation has Jethro as 'Moses' kinsman', a compound with the structure $[[moyses]_D [kynnes-man]_D]_{DP}$. Clear lexical status of the form in the modern period is indicated by the derived form in (6c):

- (6) (c) True kinsmanly affection to our brethren in Christ (1838 J.MARTIN *Rem. & Serm.* vii. 168 [OED])

The *craftsman* set therefore was a productive set in the earlier history of English. The more abstract *NsN* construction sanctioned instances which deviate from prototype. Such extensions from the prototype include forms where the determinant cannot be historically a genitive (e.g. in instances where the determinant is a verbal inflection). One such example is the word *spokesman*, which in the later ME period replaced the earlier form *speakman*, illustrated in (6d):

- (6) (d) Oure guode spekeman and oure zuete mayster Iesu Crist
'Our good spokesman and our sweet master Jesus Christ'
(1340 *Ayenb.* 99 [OED])

Although the *NsN* construction was productive (in that it sanctioned new instances) in the earlier history of English, it is no longer productive (cf. Marchand 1969: 67); further evidence in support of this comes from more recent forms, like *odd-job-man*, the first example of which in the OED is from Dickens' *A Tale of Two Cities*:

- (6) (e) Outside Tellson's – never by any means in it, unless called in – was an odd-job-man. (1859 DICKENS *Tale of Two Cities* II. i. 34 [OED])

Such forms retain a more compound-like status (in terms of stress and phonological reduction, since the lexicalization process more generally is also suggested by a phonological change in the determinatum: $[man/mən] > [mən]$).

3 Lexicalization and possessive constructions

This section discusses evidence for the diachronic lexicalization of prenominal possessives in light of Taylor's synchronic, cognitive analysis of the constructions involved (Taylor 1996), and Brinton & Traugott's general account of lexicalization (Brinton and Traugott 2005). Section 3.1 provides an overview of how the term 'lexicalization' is used by different scholars in the literature; section 3.2 examines inputs to and outputs of lexicalization; and section 3.3 involves the application of the frameworks outlined in section 3.1 and 3.2 to possessive constructions.

3.1 The term 'lexicalization'

Lexicalization, as it is used in this article, refers to a diachronic process of language change. I am therefore excluding from the definition those uses of the term, largely in synchronic linguistics, which refer, for instance, to the incorporation of both motion and cause or both motion and ground in verbs like *blow* and *deplane* respectively in *the paper bag blew down the alleyway* and *the passengers deplaned* (Talmy 1985, 2003). This emphasis on diachrony is highlighted by Lipka (2002 [1990]: 111) as follows:

I would like to define *lexicalization* as the phenomenon that a complex lexeme once coined tends to become a single complete lexical unit, a simple lexeme. Through this process it loses the characteristics of a syntagma to a greater or lesser degree . . . In my definition an essential condition and a prerequisite for this gradual diachronic process is the fact that a particular complex lexeme is used frequently.

Lipka's definition refers to high token frequency, as opposed to (productive) type frequency. Bauer & Huddleston (2002: 1629) consider productivity and lexicalization to be opposites, and they suggest that both a process and an affix may be productive. In other words, N+N compounding is a current, productive way of forming new words, and so is adding *-ness* to adjectives to make nouns. However V+N compounding, where the N functions as direct object of the V, as in *pickpocket* and *dreadnought*, and adding *-ric* to nouns to make new nouns are said to be no longer productive word-formation patterns⁶. When a particular morphological process falls into disuse, the output constructions are lexicalized. Bauer and Huddleston (2002: 1630) discuss the form *wheelchair*, and consider this form to have an idiosyncratic, specialised meaning typical of lexicalised forms, but do not consider this to be a legitimate example of lexicalization, because:

it is formed from a perfectly productive process of compounding from two nouns that are readily identifiable with the independent words *wheel* and *chair* and its meaning is quite consistent with its having been formed by compounding *wheel* as modifier with *chair* as head.

Presumably here we have an instance of institutionalization (Bauer 1983): while a *wheelchair* could conceivably also be a chair in the shape of a wheel, all other possible meanings have been ignored, and speakers of English have agreed on a conventionalised

meaning of the compound. Given this emphasis on a diachronic process which involves fusion from more complex to less complex forms, my working definition of one type of lexicalization is that provided by Brinton & Traugott (2005: 96):

Lexicalization is the change whereby in certain linguistic contexts speakers use a syntactic construction or word formation as a new contentful form with formal AND semantic properties that are not completely derivable or predictable from the constituents of the construction or the word formation pattern. Over time there may be further loss of internal constituency and the item may become more lexical. [emphasis added]

The emphasis here highlights the fact that Brinton & Traugott (2005) conceive of lexicalization as both a change in form and in meaning.

3.2 Inputs to and outputs of lexicalization

What kinds of syntactic strings serve as an input to the lexicalization process? First, there is some evidence that free syntactic forms may undergo a degree of lexicalization to composite predicate constructions (see Brinton 2008; Trousdale 2008), such as *curry favour with* and *poke fun at*, marked by a decrease in productivity, increased syntactic fixedness (for example, the ungrammaticality of some passive variants such as **Favour was curried with NP*); decategorialization of the noun (a Google search conducted on 17 October 2007 found only 7 hits for ‘poke the fun at’, compared to about 839,000 for ‘poke fun at’); and increased idiomaticity as a result of a decrease in compositionality. This increase in fixedness and decrease in compositionality may be seen as the first stage of the lexicalization cline, which Brinton & Traugott (2005: 94) designate as L1, or a semi-fossilised phrase. Second, the move from a compound word (such as OE *wīs* + OE *dōm*) to a complex form such as *wisdom* (where the second element comes to function as a productive⁷ suffix) is a move to L2, that is, to a partially idiosyncratic complex form. And third, a move to L3, that is, to an entirely unanalysable whole, may derive from both compounds (for example, OE *hlafweard* ‘loaf keeper’ > ModE *lord*) and complexes (for example, ModE monomorphemes which derive from OE and ME complexes ending in *-sum* ‘having the quality of’, such as *buxom*, *lissom*, and *fulsome*).

Not all lexicalizing forms need to go all the way down the cline, from L1 to L3.⁸ It is also the case that not all lexicalized forms begin the process at L1 (e.g. not all compounds have to have an origin as phrases). Rather, what we see is a more general process, discussed by Lehmann (2002, 2004) and Himmelmann (2004). For Lehmann, the crucial issue is loss of individuality: in a given string [X Y]_Z, in any lexicalization process, Z is affected as a result of the loss of the individuality of either X, Y or the relation between X and Y, such that the inputs X and Y are no longer distinguishable. This lack of distinction may be the result of phonological fusing (for example, the development of *hustings* from the Old Norse *húþing* lit. ‘house meeting’, ‘council’), or it may simply refer to a conventionalised mismatch between form and meaning (i.e. idiomatization) where the parts remain ‘recognizable’ phonologically, but take on a particular meaning as a result of their appearing in a single lexeme (which

explains why it is not semantically or pragmatically odd in English to describe a female member of a particular species of the thrush family as *a brown blackbird*). Himmelmann (2004) contrasts grammaticalization with lexicalization as follows: grammaticalization involves expansion in host class (i.e. the range of constituents with which a form co-occurs), syntactic context, and semantic/pragmatic context; lexicalization will not involve expansion in host class, but syntactic and semantic/pragmatic context may either expand, contract or stay the same. One possible explanation for the lack of expansion in host class is because in lexicalization, token bonds with token, not type (a further contrast with grammaticalization). This is explored in more detail in section 4 below.

3.3 Lexicalization and possessives

The first stage of the lexicalization of possessive phrases (L1) involves some degree of idiosyncrasy, in terms of form and meaning. In other words, the emergent fixed construction comes to be conventionalised in some way, and the bonding of nominal modifier to nominal head in each instance must involve an abrupt reanalysis stage. Once the pattern of reanalysis has been established for more prototypical cases—for example, the shift from *[[a driver]'s license]* to *[a [driver's license]]*—this can be extended to cases where only a compound reading is possible, i.e. where only one syntactic bracketing is possible (e.g. *[a [women's magazine]]*, cf. *[[*a women]'s magazine]*). Thus the lexicalization of 'free' syntactic constructions may show idiosyncratic formal properties, as in the case of *a women's magazine* noted above, and arguably *jogger's nipple*, which in its compound reading admits no article; and it may also show idiosyncratic meaning properties (*athlete's foot* is exocentric, not a foot, but an infection). The move to L1 thus involves change in both form and meaning; the construction becomes less subjectivised and more contentful; it also becomes less compositional, and involves increasing form-function mismatch.

The move from L1 to L2 suggests move towards more 'compound'-like formal and functional properties (cf. Giegerich 2004). At this stage, we see either the loss of (or at the very least variability in) historical genitive marking (note the synchronic variation in *travellers' cheques* ~ *traveller's cheques* ~ *traveller cheques*). This can be exemplified by the early history, as noted in the *OED*, of the lexeme *Christmas* (which has in fact developed to the monomorpheme stage L3, based on the phonological attrition at the historic juncture of the two nominal inputs, and on opacity of meaning):

- (7) (a) Her on þisum ȝeare to Xþes. mæssan
 Here in this-DAT year-DAT to Christ-GEN mass-DAT
 heold se cyng Heanriȝ his hired
 hold-3.S.PAST the-NOM king-NOM Henry his court
 on Westmynstre
 at Westminster
 'In this year king Henry held his court at Christmas at Westminster'
 (a1123OE. *Chron.* an. 1101 [*OED*])

- (7) (b) Wel by-commes such craft vpon cristmasse
 Well become-3.S.PRES. such craft upon Christmas
 'It's good to have such mysteries at Christmas'
 (c1340 *Gam. & Gr. Knt.* 471 [OED])
- (7) (c) The King..beganne Crysma at Westmynster
 The king .. begin-PAST Christmas at Westminster
 'The king began Christmas at Westminster'
 (1489 *Plumpton Corr.* (1839) Introd. 114 [OED])

An example of a change all the way down the cline (L1 > L2 > L3) is *foolscap*. The etymology of this form is as follows. It has its origins in a regular possessive phrase, meaning 'A cap of fantastic shape, usually garnished with bells, formerly worn by fools or jesters':

- (8) (a) A French hood too..A fool's cap would show better. (1632 MASSINGER *City Madam* IV. iv [OED])

The phrase then undergoes a metonymic change leading to the first stage of lexicalization, L1, taking on particular and idiosyncratic meanings, namely 'the device of a 'fool's cap' used as a watermark for paper' and 'a long folio writing- or printing-paper, varying in size':

- (8) (b) *Fool's-Cap*, a sort of Paper so called
 [a1700 B.E. *Dict. Cant. Crew* [OED])

This semantic change is accompanied by a syntactic change, where variants without an article appear, which would suggest a further lexicalization to L2:

- (8) (c) One side of a sheet of foolscap. (1843 LEFEVRE *Life Trav. Phys.* I. I. ii. 28 [OED])

At this stage, then, *the fool's* is no longer functioning as a determinative of any kind, and has therefore undergone a loss of grammatical function. This is not true of the type (possessive genitive), but only of this particular token. The move to L3 is suggested by two things: first, by a phonological change, [u] > [ʊ], which is reflected in orthographic variants, such as the following from the website of a UK stationery firm:

- (8) (d) *Twinlock Personal File-Fullscap* available from Ryman the Stationer (www.ryman.co.uk)

and second, by folk etymology, illustrated by the following example from the internet:

- (8) (e) The children record their answers in a notebook or halfscap booklet
 (http://www.rainbowhorizons.com/teaching_units/units.php?UID=Mercer_Mayer_-_An_Independent_Activity_Center)

The form *halfscap* in (8e) can only be derived from a new analysis of the phonological string [fʊlskap] as bimorphemic *full* + *scap*.

3.4 Lexicalization and grammaticalization

I have shown how some aspects of the later history of prenominal possessives suggest lexicalization, illustrated not only by the development of individual forms like *Christmas* and *foolscap* (section 3.3) but also by sets of *NsN* compounds and monomorphemes (section 2.3). However, the earlier history of prenominal possessives (as discussed in section 2.1) is a case of grammaticalization, not lexicalization, because the process involves the development of a new grammatical (specifically, determinative) function⁹, as well as increased frequency and productivity of the new pattern, and subjectification of the possessor-possessee relation (see Taylor 1996: 348–51). The question remains as to how we bring such developments together into a unified account. In this regard, the discussion here makes a further contribution to the debate on similarities and differences between grammaticalization and lexicalization articulated by, among others, Wischer (2000), Brinton (2002), Lehmann (2002), Himmelmann (2004), Brinton & Traugott (2005), Lightfoot (2005), Fischer (2007) and Haas (2007). Lightfoot (2005) and Haas (2007) both provide discussions of forms – German *-heit* and English *each other*, respectively – which they suggest undergo simultaneous lexicalization and grammaticalization. These cases are different from those affecting the English possessive (compound) constructions discussed here, but the issues they raise are clearly most relevant to the present discussion.

Haas (2007) argues that one way of distinguishing grammaticalization from lexicalization is to focus on aspects of the processes which are proper only to one or the other. Following Himmelmann (2004), he suggests that syntactic, semantic and pragmatic context expansion is peculiar to grammaticalization, and univerbation combined with fossilisation is peculiar to lexicalization. It is not clear to me why univerbation and fossilization should be mentioned here, however, because these processes are also typical in grammaticalization (e.g. the development of *sorta* and *kinda* discussed by Denison 2005, Traugott 2008 a, b, forthcoming; see also Brinton & Traugott 2005: 110). The emergent construction has not become more referential or substantive; and while Haas shows convincingly that *each other* has undergone univerbation¹⁰ and fossilization, it is the case that both of these processes may also occur in grammaticalization. It is therefore questionable that *each other* has undergone lexicalization. Haas (2007), citing Himmelmann (2004), in discussing similarities and differences between lexicalization and grammaticalization, argues that the focus in distinguishing the two phenomena must be on the processes involved, and not on the characteristics of the input or output of such processes. In his thorough, detailed analysis of the development of reciprocal *each other* in English, he suggests that that string has undergone both grammaticalization (indicated by context expansion, such as its appearance as a prenominal possessor in the late sixteenth century, and as subject in subordinate and non-finite clauses in the twentieth century) and lexicalization (indicated by fossilization and univerbation, whereby the entire string comes to be governed by a preposition, and whereby *each other* can appear with a further quantifier each in the same clause)¹¹. It is clear that the processes of grammaticalization and lexicalization must be carefully examined and distinguished where appropriate, but it seems to me impossible to ignore the function of the output construction in the overall language system, and

whether the process involves the bonding of two tokens in input. Particularly, the process of specialization (Hopper 1991), which Haas (2007) illustrates very convincingly, suggests that the development of *each other* is a case of grammaticalization alone.

In the next section, I suggest that a Construction Grammar approach to language structure allows us to model both grammaticalization and lexicalization in an optimal way. The key developments to be considered in this constructional account, therefore, are:

- (a) how the development of the Possessive Construction in OE and ME forms part of a grammaticalization process (cf. Koike 2004, 2006)
- (b) how such emergent prenominal Possessive Constructions serve as an input to lexicalization
- (c) how some prenominal Possessive Constructions undergo lexicalization to differing degrees, as proposed by Brinton & Traugott (2005).

4 Diachronic Construction Grammar, grammaticalization and lexicalization

As Langacker (2005) and Goldberg (2006) have observed, there is currently debate among those working within a constructional approach to language about similarities and differences between the various subtypes of CxNG. Despite the acknowledged differences, the common ground that exists allows us to posit the following set of principles which will be relevant to a study of grammaticalization and lexicalization phenomena.

First, it is claimed that all of linguistic knowledge takes the shape of form-meaning pairings, from atomic and substantive constructions (for example, *dog*) to complex and schematic ones (for example, the SVO transitive construction in English, cf. Taylor 1998; Trousdale forthcoming). This set of form-meaning pairings constitutes the CONSTRUCTICON (cf. Croft 2001: 17; Goldberg 2006), and such a claim implies the abandonment of a strict syntax-lexicon divide. This is of particular relevance to lexicalization studies, because many accounts of diachronic lexicalization phenomena assume that linguistic strings somehow move from the syntax into the lexicon (see for example Booij & Rubach 1987, Giegerich 2004, and, for a detailed account of a generativist analysis of lexicalization with respect to the same kind of data discussed later in this paper, Shimamura 2002).

Second, all such constructions are organised in a taxonomic network, and the relationship between more schematic and more substantive constructions may involve MULTIPLE INHERITANCE. For example, a subset of composite predicate constructions typically involving the verb *give* and a gerund, such as *He gave him a kicking* 'he assaulted him', involves inheritance from both the more general Composite Predicate Construction (e.g. *he gave a snort* 'he snorted') and the Ditransitive Construction (e.g. *he gave him a present*), on the grounds that idiomatic and grammaticalized patterns associated with the former are combined with some more regular semantic and syntactic patterns associated with the latter¹².

Third, constructional change involves changes either of form (phonology, morphology, syntax) or meaning (semantics, pragmatics, discourse) or both. In fact, from both a diachronic and sociolinguistic perspective, it is unlikely that any change in form will not be related in some way to the pragmatic or discourse context in which the constructional innovation is used by speakers: constructional change occurs as speakers modify constructions in novel ways for specific communicative purposes, and such modified constructions become conventionalised by being adopted by a wider network of speakers.

Fourth, grammaticalization and lexicalization are both examples of types of constructional change, and indeed involve similar kinds of changes; what differentiates them is how the emergent construction functions in the constructicon – if it is now more schematic and procedural, there has been a process of grammaticalization; if it is now more substantive and contentful, there has been a process of lexicalization.

Finally, neither idiomaticity (a kind of conventionalised form–meaning mismatch) nor univerbation (which involves bonding in the emergent construction) serve to distinguish grammaticalization from lexicalization; both grammaticalization and lexicalization may involve these processes (cf. Brinton & Traugott 2005: 110).

4.1 A constructional taxonomy

The analysis presented here makes use of a set of constructional levels established by Traugott (2008 a, b, forthcoming), and adopted by Trousdale (2008, forthcoming), in discussions of the grammaticalization of a set of degree modifiers, and the grammaticalization and lexicalization of composite predicate constructions, respectively. The CONSTRUCT is a particular usage event (written or spoken), and in cases of change, may represent the locus of innovation. For example, *Uncle Tom's Cabin* is a recorded token of usage, and therefore qualifies as a construct. It is also a documented token of a more general type, and such individual construction types ([Proper N]'s N) are MICRO-CONSTRUCTIONS. Micro-constructions represent instances of more general constructions which have a set of shared formal and/or functional properties, which serve to distinguish them from other sets. These are known as MESO-CONSTRUCTIONS. In an extension to the discussion of this constructional hierarchy in Traugott (2008 a, b, forthcoming), I propose here that there may be more than one meso-constructional level (see also Trousdale 2008). In the case of the possessive constructions, this is certainly the case. The less schematic meso-construction is the prenominal possessive construction: members of this set are differentiated from *of*-genitives, for instance; however, both sets are instances of the more schematic possessive construction. This too represents a set of constructions with a specific form and function, and which are differentiated from, for instance, demonstrative constructions. Finally, there is the MACRO-CONSTRUCTION, which represents a highly schematic construction at both the form and meaning poles. Meso-constructions are instances of macro-constructions; in the case of the present constructional taxonomy, the possessive and the demonstrative constructions are both instances of the determiner construction. This constructional taxonomy is illustrated in Figure 1.

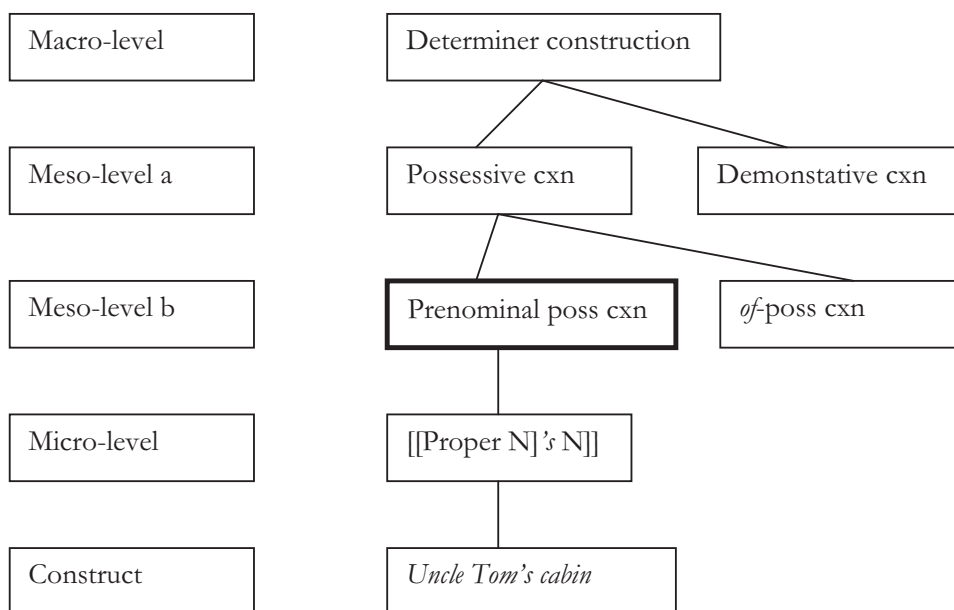


Figure 1. Partial constructional taxonomy for possessives in English

4.2 Constructions, grammaticalization and lexicalization

Brinton & Traugott (2005: 110) consider the features listed in Table 2 as helpful diagnostics for some of the ways in which grammaticalization and lexicalization are similar, and some of the ways in which they are different.

What is noticeable about this table is that the points of convergence between grammaticalization and lexicalization—namely gradualness, unidirectionality, fusing, coalescence, idiomatization—are all associated with emerging constructional status. In both grammaticalization and lexicalization, constructions, at various degrees of schematicity and complexity, are both the input to and output of the processes; however, the nature or type of construction at input is different from the nature or type of construction at output in both cases. Grammaticalization and lexicalization both involve mismatch; but grammaticalization does so at the type level, lexicalization does so (typically) at the token level. Thus unifying the two processes is dependent on our understanding of the development of construction as a whole, by understanding changes in particular constructional taxonomies. Specifically, in cases of lexicalization, the construction at output will have undergone an increase in substantiveness; by contrast, in cases of grammaticalization, the output construction will display increased schematicity. The more schematic the construction, the more productive it will be (thus such constructions become aligned with what is usually called ‘syntax’ and ‘productive morphology’); the more substantive the construction, the less productive it

Table 2. Similarities between lexicalization and grammaticalization (Brinton & Traugott 2005: 110)

		Lexicalization	Grammaticalization
a	Gradualness	+	+
b	Unidirectionality	+	+
c	Fusion	+	+
d	Coalescence	+	+
e	Demotiviation (idiomatization)	+	+
f	Metaphorization/metonymization	+	+
g	Decategorialization	–	+
h	Bleaching	–	+
i	Subjectification	–	+
j	Productivity	–	+
k	Frequency	–	+
l	Typological generality	–	+

will be (i.e. it will become more associated with the ‘unproductive morphology’ and the ‘lexicon’).

The grammaticalization cline (G1 > G2 > G3) in Brinton & Traugott’s terms is what I categorise as increased schematicity, the move to a more procedural construction (involving subjectification, and deictification in the case of nominal grammaticalization), which may result in the emergence of new macro-constructions (such as the determiner construction in the history of English). The lexicalization cline (L1 > L2 > L3) in Brinton & Traugott’s terms is what I categorise as increased substantivity, the move to a more contentful construction (involving desubjectification), which may result in the crystallization of a particular micro-construction.

5 Conclusion

To sum up, the OE to ME change which involved:

- the fixing of the adnominal genitive in prenominal position
- the increased determinative function of the adnominal genitive
- the movement from parataxis to hypotaxis
- the increased productivity of the prenominal possessive
- the growth of the determiner as an atomic but schematic construction
- subjectification of possessor-possessee relation

is indicative of grammaticalization—the development is from meso-construction (possessive genitive) to macro-construction (Determiner Construction), in a way that parallels the growth of the Auxiliary Construction within the realm of verbal syntax¹³ (cf. Hudson 1997, who discusses the growth of the category of auxiliary in a different but related cognitive framework, Word Grammar.) By contrast, the changes in possessive

constructions from ME onwards which involved:

- typically token and token bonding (e.g. *Christes + mass*, not *N + mass*)
- in some exceptional cases, type and token bonding (the *NsN* constructions) where this ultimately leads to a decrease or loss of productivity
- bonding, coalescence and idiomatization which changes and typically increases the substantive semantic meaning of the construction

are indicative of lexicalization – the move is from meso-construction (prenominal possessive) to micro-construction (e.g. *foolscap*, *Christmas*, *Tuesday* and other days of the week; *spokesman*). We can therefore suggest a slight reformulation to the definitions of grammaticalization provided by Hopper & Traugott (2003:18) and Brinton & Traugott (2005), and provide an analogous definition of lexicalization as follows:

Grammaticalization is the change whereby (combinations of) constructions come in certain linguistic contexts to serve procedural/grammatical functions and, once grammaticalized, continue to develop new procedural and grammatical functions; lexicalization is the change whereby (combinations of) constructions come in certain linguistic contexts to serve contentful/lexical functions, and once lexicalized, continue to develop a more idiosyncratic contentful function.

Further issues thus raised by the discussion presented here concerns the nature of (de)grammaticalization and lexicalization clines (see Hopper & Traugott 2003, Norde 2001, 2002) and the place of derivational morphology in grammaticalization and lexicalization (Lehmann 2002, Lightfoot 2005). It seems that a constructional approach to grammaticalization and lexicalization suggests not a cline, but a taxonomic network of related constructions. As these constructions change (through processes such as univerbation, fossilization, phonetic reduction etc.) they begin to acquire different functions in the constructicon. Increasingly schematic constructions typically take on a procedural or grammatical function; increasingly substantive constructions typically take on a referential or lexical function. It is the schematic vs. substantive distinction that differentiates grammaticalization from lexicalization. Some of the features that bring them together include the fact that some aspects of constructional change are gradual (cf. Lightfoot 2005: 587 for a more general discussion of gradience in relation to grammaticalization and lexicalization).

One issue that warrants further attention is that of productivity and constructions. Following Himmelmann (2004) and Langacker (2005), I have argued here that in lexicalization, constructions become less productive. By this I mean that a particular constructional schema will sanction fewer and fewer instances. However, if we take a compound > complex change (which is a change to L2 in the framework of Brinton & Traugott 2005) like *wis + dom > wisdom*, we see a series of analogous forms such as *kingdom*, *fiefdom*, and so on, including the *Blairdom* example cited in footnote 7 above. The question then is how has *dom* become less productive? One possible solution is

that the loss of productivity is not a characteristic of earlier stages of lexicalization, but only of the latter stages. This means that loss of productivity is only true at $L2 > L3$, and not before. An interesting consequence of this is that we are further able to identify the stages at which grammaticalization and lexicalization processes are most alike, and the stages at which they are most distinct. The greatest degree of similarity seems to be at the earliest stages of either change ($G1 > G2$ and $L1 > L2$)—at this stage, grammaticalization must and lexicalization can involve increased productivity, generality and loss of compositionality. This last development (i.e. loss of compositionality) continues in both $G2 > G3$ and $L2 > L3$, but only in $G2 > G3$ do you continue to get increased productivity and generality; in $L2 > L3$, you lose both.

Therefore, a benefit of CxnG is that it can provide a unified account of grammaticalization and lexicalization, linguistic changes which have much in common, and much which keeps them distinct. To this extent, it also helps to unpack some of the problems inherent in theories of language structure which insist on a sharp dichotomy between the lexicon and the syntax.

Notes

1. Some of the material discussed in this article was presented at the Studies in the History of the English Language 5 conference at the University of Athens, Georgia, USA (October 4th–6th, 2007). I am grateful to members of the audience at that conference for their useful feedback. I am particularly grateful to Laurel Brinton, Muriel Norde and Elizabeth Traugott, as well as to two anonymous reviewers, for their detailed and helpful comments on an earlier version of this article.
2. Muriel Norde (p.c) provides additional evidence for the development of hypotactic structures from paratactic ones in relation to the behaviour of adjectives in Swedish possessive constructions. Adjectives in early Old Swedish possessives have a strong (indefinite) inflection, e.g. *kununx opit breff*, while in Modern Swedish the adjective has the weak (definite) form, i.e. *kungens öppna brev*, '(the) king's open letter'.
3. See also Lieber (1992: 84) on inseparability as a feature of compound status (e.g. *a beautiful old folks home* vs. **an old folks beautiful home*).
4. An anonymous reviewer pointed out that there is diatopic variation here, since in at least some varieties of American and Canadian English, the foodstuff is known as *frog legs*.
5. In Table 1, the terms 'subject' and 'object' refer to the roles played by the equivalent of the determinatum in a putative underlying sentence. For example, in a sentence *someone* (Subject) *drinks* (Verb) *water* (Object), a compound with a subject determinatum would be *water-drinker*, while a compound with an object determinatum would be *drinking water* (example based on that given by Kastovsky 2005: 105). Also, with reference to the typical end-stress associated with the *athlete's foot* set, there is some evidence of diatopic variation. American English speakers typically have forestress, but with no phonological reduction in the determinatum. This does not seem to me to be characteristic of English English.
6. The non-productivity of such V+N compounds is perhaps only a feature of the standard variety, since such forms are still coined in non-standard varieties of English (e.g. *kissass* 'an obsequious person', *kickdoor* 'a raid on a drug dealer's house by police or members of a rival gang').

7. Evidence that the *-dom* suffix is still productive can be found in the following letter addressed to the editor of the *Bradford Telegraph and Argus* (Monday 9 May 2005), concerning the departure of Chris Leslie as the Shipley MP: "No doubt some party sinecure will come his way as recompense for his unquestioning loyalty to Blairdom through his eight invertebrate years".
8. The same of course is true of grammaticalization. While French future markers, having grammaticalized from Late Latin verbs (e.g. the well known *chanterai* < *cantare habeo*), display a move from free lexemes to affixes, not all grammaticalizing lexemes end up as affixes (e.g. the equally well known English modal verbs *must*, *can* and *may*), cf. Hopper & Traugott (2003); Brinton & Traugott (2005).
9. Muriel Norde (p.c.) raises the important point that on a morpheme-based analysis, the development of possessives of the kind *the king of Spain's beard* must be considered as degrammaticalization (see Norde forthcoming). Norde's observation, coupled with my claim regarding constructional grammaticalization, provokes interesting questions about the nature of unidirectionality and clines in (de)grammaticalization.
10. Lehmann (2002) equates lexicalization with univerbation, but when *sort* and *of* univerbate to *sorta*, the resulting form is not 'more lexical', but rather 'more grammatical'. So because univerbation is a feature of both grammaticalization (e.g. *sorta*) and lexicalization (e.g. *foolscap*), I keep the terms 'univerbation' and 'lexicalization' distinct.
11. Further discussion of whether fossilization and univerbation are peculiar to lexicalization is discussed briefly in section 4 below.
12. These constructions (especially their historical development, and the concomitant grammaticalization and lexicalization patterns involved) are discussed in more detail by Trousdale (2008). The relationship between multiple inheritance and the syntax of gerunds more generally is explored by Hudson (2003).
13. The parallels between the growth of the determiner system and the auxiliary (particularly modal) system of English are currently being explored by Cort, Denison & Spinillo (2006); what is interesting about the growth of both macro-constructions through grammaticalization is that they both involve subjectification (since both may involve the epistemic evaluation on behalf of the speaker/hearer) and an increase in grounding—the determiner system grounds deictically in terms of space, while the auxiliary grounds deictically in terms of time—which illustrate the procedural nature of macro-constructions. Deictification in relation to grammaticalization has been discussed recently by Davidse (2007) and Breban & Davidse (2003).

Data sources

- CH* = Clemoes, Peter. 1997. *Ælfric's Catholic Homilies: The First Series* (EETS SS 17). London: Oxford University Press.
- OED* = Oxford English Dictionary (www.oed.com)

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Author's addresses: (Graeme Trousdale)
Linguistics and English Language
School of Philosophy, Psychology and Language Sciences
Dugald Stewart Building
University of Edinburgh
3 Charles Street
Edinburgh
EH8 9AD, UK
E-mail: graeme.trousdale@ed.ac.uk